PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	)	
	)	FOR: HIGH EFFICIENCY CARDIAC GENE TRANSFER
Kenneth R. Chien	)	
	)	
Serial No.: 09/954,571	)	Group
	)	Art Unit: 1632
Filed: September 11, 2001	)	

RESPONSE TO NOTIFICATION TO COMPLY WITH SEQUENCE LISTING REQUIREMENTS

Commissioner for Patents
Box Sequence
P. O. Box 2327
Arlington VA 22202

Attention: Peter Paras, Jr.
Examiner

Dear Sir:

This is in response to the Notice to Comply with Sequence Listing Requirements (copy attached) mailed March 27, 2003, stating that the Applicant

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, PO Box 2327, Arlington VA 22202 on

April 14, 2003
(Mailing Date)

Karen L. Johnson
(Typed Name)

(Signature)

April 14, 2003
(Date of Signature)

must provide a "Sequence Listing". The Applicants have included a new and amended paragraph to refer to the Sequence Listing and the sequences included therein by SEQ ID numbers. The Applicants submit that the changes to the specification and the inclusion of a Sequence Listing do not constitute new matter as the sequences were disclosed in the original application in Figure 1.

Please amend the Specification as follows:

Between paragraphs 0002 and 0003, please add the following text:

SEQUENCE LISTING

[0002a] A Sequence Listing is attached hereto and is incorporated by reference into the specification.

Please amend paragraph 0023 as follows:

[0023] **FIGURE 1 A-C** Characterization of pseudophosphorylation mutant of phospholamban (S16EPLB) **(A)** The cross-species alignment of 52 amino-acid peptide of PLB, which is highly conserved. The phosphorylation site at Ser16 catalyzed by cAMP dependent kinase was mutated as Glu16. (SEQ ID 1-5) **(B)** The catecholamine-independent upregulation of cardiac hemodynamics in S16EPLB transgenic mice. S16EPLB was placed behind 5.5 kilobase mouse α-MHC promoter (a gift from Dr. Jeffery Robbins, University of Cincinnati) and transgenic mice were generated in CB6F1 background by intra-nuclear injection. Heart rate (left), maximum (middle) and minimum (right) first derivatives of LV pressure change with increased doses of dobutamine, the β-adrenergic agonist, were measured in control animals (open circles, n=8) and α-MHC-S16EPLB animals (closed circles, n=8) as described previously (Palakodeti et al, 1997). mean ± SE, *P<0.05 (repeated measure of ANOVA, followed by post hoc Student-Newman-Keuls test). **(C)** Rescue of cardiomyopathic dysfunction of MLPKO ventricular cells by AdenoS16EPLB gene transfer. AdenoS16EPLB was co-injected with AdenoEGFP in day 0-3 MLPKO mouse neonates. Four-6 weeks later, the

single cell contractions of transgene positive cells (S16E) and negative cells (control) from MLPKO mice and transgene positive cells from wild type mice injected with AdenoEGFP alone (normal) were measured (Christensen et al., 2000).

FEES

It is believed that no fees are due with this response. However, if a fee is due, the Commissioner is entitled to charge deposit account 02-4070 referencing case number 6627-PA0123.

CONCLUSIONS

In view of the above comments, the Applicants submit that the application is in proper form for examination. If the Examiner believes that examination of the case can be expedited by a telephone call, he is invited to call the agent for applicant listed below, collect, in order to resolve any issues that may remain.

Respectfully submitted,

Dated: April 14, 2003

By: _____
Colleen J. McKiernan, PhD
Agent for Applicant
Registration No.48,570

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